LISTING OF CLAIMS

The listing of claims provided below replaces all prior versions, and listings, of claims in the application.

1-5. (Cancelled)

6. (Currently Amended) A method for generating signals to effect one of translational movement, rotational movement, and both translational and rotational movements of an object on a graphical display using one of human arm position data, human arm movement data, and both human arm position and movement data, comprising:

providing an image processor and a device for capturing a video sequence;

capturing, from the video sequence, a frame that does not include a person;

isolating a view comprising a foreground subject image view by performing an algorithm on the video sequence and the frame that does not include the person, wherein the algorithm includes subtracting the frame that does not include the person from individual frames in the video sequence;

determining whether the isolated view includes an image of a person;

determining a horizontal extent of a torso in the image of the person so as to isolate arm portions of the person in frames of the captured video sequence;

computing arm angles by calculating angles of principle moment of nonzero pixels in the arm portions of the image of the person; and

generating an arm position data signal responsive to arm angles for effecting one of translational movement, rotational movement, and both translational and rotational movement of an object on a graphical display.

7. (Previously Amended) The method of claim 6 wherein the step of determining whether the isolated view includes the image of the person comprises the steps of:

counting a total number of nonzero pixels in the foreground image;

ensuring that the total number of nonzero pixels in the foreground image falls within a range defined by a minimum and a maximum threshold number of pixels.

8. (Cancelled)

9. (Original) The method of claim 6 wherein the following algorithm is used in the isolating step:

(a) obtain static background Y0 U0 V0 frames;

(b) smooth images Y0 U0 V0 using a 5x5 Gaussian convolution;

(c) obtain current Y U V video frames;

(d) smooth images Y U V using a 5x5 Gaussian convolution;

(e) for each pixel in Y, compute Ydif = abs(Y – Y0);

(f) for each pixel in U, compute Udif = abs(U – U0);

(g) for each pixel in V, compute Vdif = abs(V – V0);

(h) for each pixel in Ydif Udif Vdif, compute Sum = Ydif + Udif*8 + Vdif*8;

(i) for each pixel in Sum, compute Foreground = 1 if Sum > Threshold, 0 otherwise;

(j) erode Foreground using standard erosion morphological filter (to remove any single-pixel erroneous measurements, such as caused by salt-and-pepper noise).

10. (Previously Amended) The method of claim 6 wherein the arm position data signal generated in the generating step is selected from the group consisting of signals related to object airspeed acceleration, bank angle, and pitch angle.

11. (Previously Amended) The method of claims 6 wherein the arm position data signal generated in the generating step is determined with the inclusion of smoothing constants.

12. (Currently Amended) A method for generating signals for use in a flight simulator graphical display using human arm position data to effect one of translational movement, rotational movement, and both translational and rotational movement, comprising:

providing a device for capturing video images and an image processor;

capturing video images with the device, the video images including an image of a background without a human form and an image of a background with a human form;

using the image processor to process the captured video images to isolate the human form from the background;

isolating arm portions of the human form from a captured video image using the image processor;

calculating arm position and movement data using the image processor; ~~and~~

generating a signal responsive to the arm position and movement data using the image processor for use in generating a state of a flight simulator graphical display, wherein the flight simulator graphical display includes as an object a flying creature that moves wings in response to the generated signal; and

generating flapping noises corresponding to movement of the wings of the flying creature.

13. (Cancelled)

14. (Original) The method of claim 12 wherein the flight simulator graphical display depicts a change in perspective of what a flying creature would see.

15. (Cancelled)

16. (Currently Amended) The method of claim 12 ~~15~~ wherein a volume of the flapping noises increases with an increased rate of arm motion.

17. (Currently Amended) The method of claim 12 ~~claims 15~~ wherein the flapping noises are triggered when a signed time rate of change of an average of arm angles exceeds a pre-determined threshold.

18-21. (Cancelled)

22. (Currently Amended) A method for generating signals for use in a flight simulator graphical display using human arm position data to effect one of translational movement, rotational movement, and both translational and rotational movement, wherein the flight simulator graphical display includes as an object a flying creature that moves wings, comprising:

providing a device for capturing video images and an image processor;

capturing video images with the device;

using the image processor to process the captured video images to isolate a human form from a background;

isolating arm portions of the human form from a captured video image using the image processor;

calculating arm position and movement data using the image processor; ~~and~~

generating a signal responsive to the arm position and movement data using the image processor, the signal to be used in generating a state of the flight simulator graphical display; and

generating flapping noises corresponding to a movement of the wings of the flying creature.

23. (Cancelled)

24. (Currently Amended) The method of claim 22 ~~23~~ wherein a volume of the flapping noises increases with an increased rate of arm motion.

25. (Currently Amended) The method of claim 22 ~~23~~ wherein the flapping noises are triggered when a signed time rate of change of an average of calculated arm angles exceeds a pre-determined threshold.

26. (Cancelled)